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09/591,888	06/09/2000	Anand G. Dabak	TI-29324	4728

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EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

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DATE MAILED: 10/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/591,888

Applicant(s)

DABAK, ANAND G.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: ref. 50 (see page 14, line 16); ref. 84 (see page 20, lines 19-21 and Fig. 6); ref. 90 (see page 20, line 19-page 21, line 16 and Fig. 6); and ref. 98 (see page 21, lines 4-16 and Fig. 7). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: label A for the antenna (see page 10, line 3 and Fig. 2); label M for the microphone (see page 10, line 24-25 and Fig. 2); and label S for the speaker (see page 10, line 24-25 and Fig. 2). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: on page 4, line 3 "A A A]" should be "A, A, A]".

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Minn et al (USPN 6,088,347).

7. Regarding claims 1 and 20, Applicant admits as prior art a method of operating a wireless communications unit to request a connection with a base station and a unit for performing the method (page 2, line 12-page 4, line 5), comprising the steps of and means for: receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit (page 2, line 12-page 4, line 5); selecting one of a plurality of orthogonal codes for the preamble (page 2, line 12-page 4, line 5); generating a spread code using the selected orthogonal code (page 2, line 12-page 4, line 5); and transmitting, to the base station, a preamble signal corresponding to the spread code (page 2, line 12-page 4, line 5). Applicant does not admit as prior art that the spread code is arranged as a symbol of the selected code, repeated a selected number of repetitions. Minn teaches, in a wireless communication system, having the spread code (user specific code) be a symbol (Walsh code) repeated a selected number of repetitions since this is part of the CDMA IS-95 standard (col. 1, line 42-48; col. 2, lines 53-64; and col. 4, lines 3-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the spread code be arranged as a

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symbol of the selected code, repeated a selected number of repetitions, since this is part of the CDMA IS-95 standard.

8. Regarding claims 2 and 21, referring to claims 1 and 20, Applicant's admitted prior art in view of Minn discloses after generating the spread code, multiplying the spread code by scrambling code associated with the base station (cell-specific code PN) (Minn: col. 4, lines 3-19).

9. Regarding claim 3, referring to claim 2, Applicant's admitted prior art in view of Minn discloses that the spread code has a length corresponding to length of the scrambling code (PN sequence =  $R_c$  and the Walsh code rate =  $R_c$ ) (Minn: col. 4, lines 3-19).

10. Regarding claim 4, referring to claim 3, Applicant's admitted prior art in view of Minn discloses that the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes (Minn: col. 4, line 3-60).

11. Regarding claims 5 and 6, referring to claim 4, Applicant's admitted prior art in view of Minn does not expressly disclose that the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen; wherein the generating step repeats a symbol of the Walsh Hadamard code 256 times or 240 times; and wherein the length of the scrambling code is 4096 chips or 3840 chips, respectively. Applicant's admitted prior art in view of Minn does disclose that the Hadamard codes have a certain length (Minn: col. 4, lines 3-60), that the scrambling code has a certain length (Minn: col. 4, lines 3-19), and that the chip rate of the scrambling code and the Walsh codes are equal (Minn: col. 4, lines 3-19). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular

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recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Minn discloses that the Hadamard codes have a certain length, that the scrambling code has a certain length, and that the chip rate of the scrambling code and the Walsh codes are equal, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any length for the Hadamard codes, including sixteen, to use any length for the scrambling code, including 4096 and 3840, and to repeat the Hadamard code a number of times such that the Hadamard code and the spreading code are equal (here, 256 times or 240 times).

12. Regarding claims 7 and 22, referring to claims 1 and 20, Applicant's admitted prior art in view of Minn discloses that the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes (Minn: col. 4, line 3-60).

13. Regarding claim 8, referring to claim 1, Applicant's admitted prior art in view of Minn discloses that the selecting step comprises executing a pseudo-random selection algorithm (Applicant: page 2, line 12-page 4, line 5).

14. Regarding claim 9, referring to claim 1, Applicant's admitted prior art in view of Minn discloses that the receiving step receives a signal indicating a plurality of time slots within which the preamble may be transmitted by the wireless communications unit (Applicant: page 2, line

12-page 4, line 5); and further comprising: selecting one of the plurality of time slots for transmission of the preamble (Applicant: page 2, line 12-page 4, line 5).

15. Claims 10-11, 13-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Minn et al (USPN 6,088,347) in further view of Madhow et al (USPN 6,175,587).

16. Regarding claim 10, referring to claim 1, Applicant's admitted prior art in view of Minn does not expressly disclose operating a base station to process the transmitted preamble, comprising the steps of: receiving the transmitted preamble; de-interleaving bits from the spread code, to group corresponding bits from each of the repetitions of the symbol despreading the grouped bits to recover a symbol; correlating the recovered symbol to identify the selected orthogonal code; however, it is implicit that the base station is capable of recovering the signal. Madhow teaches, in a wireless system, operating a base station to process a transmitted signal, comprising the steps of: receiving the transmitted signal (col. 5, lines 26-33); de-interleaving bits from the spread code, to group corresponding bits from each of the repetitions of the symbol (Fig. 3 and col. 5, line 66-col. 6, line 6); despreading the grouped bits to recover a symbol (Fig. 3; col. 5, line 66-col. 6, line 6; and col. 7, lines 34-49); correlating the recovered symbol to identify the selected orthogonal code in order to recover the original signal (col. 7, lines 34-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal.

17. Regarding claim 11, incorporating arguments from claim 1, Applicant's admitted prior art in view of Minn does not expressly disclose operating a base station to recover a preamble code transmitted by a wireless unit, comprising the steps of: receiving a signal corresponding to a

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preamble; arranging the signal into a bitstream; de-interleaving bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups; despreding the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding of a length of the preamble code; and correlating the sequence to identify a code, the code corresponding to one of a set of orthogonal codes. Madhow teaches, in a wireless system, receiving a signal corresponding to a transmitted signal (col. 5, lines 26-33); arranging the signal into a bitstream (col. 5, lines 26-33); de-interleaving bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups (Fig. 3 and col. 5, line 66-col. 6, line 6) where the bits corresponding to each Walsh code are grouped in order to allow processing for each Walsh code; despreding the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding of a length of the transmitted signal (Fig. 3; col. 5, line 66-col. 6, line 6; and col. 7, lines 34-49); and correlating the sequence to identify a code, the code corresponding to one of a set of orthogonal codes in order to recover the original signal (col. 7, lines 34-49). It would have been obvious to one of ordinary skill in the art at the time of the invention to recover the original signal by reversing the process taken to transmit the signal.

18. Regarding claim 13, referring to claim 11, Applicant's admitted prior art in view of Minn in further view of Madhow discloses responsive to the correlating step identifying a code,, initiating a connection with a wireless unit that transmitted the preamble (Applicant: page 2, line 12-page 4, line 5 and Madhow: col. 7, lines 34-49).



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19. Regarding claim 14, referring to claim 11, Applicant's admitted prior art in view of Minn in further view of Madhow discloses that the number of groups generated by the deinterleaving step corresponds to the length of the preamble code times a number of segments in the bitstream (Applicant: page 2, line 12-page 4, line 5 and Madhow: col. 7, lines 34-49) where the number of groups is the number of repetitions which corresponds to the length of the preamble code times the number of segments in the bitstream; that the despreading step recovers the plurality of symbol bits into a sequence having a length corresponding to the length of the preamble code times the number of segments (Applicant: page 2, line 12-page 4, line 5 and Madhow: col. 7, lines 34-49) where the despreading ideally recovers the original signal whose length corresponds to the length of the preamble code times the number of segments; and that the correlating step comprises: correlating each of the corresponding symbol bits from each of the plurality of segments to identify the code (Applicant: page 2, line 12-page 4, line 5 and Madhow: col. 7, lines 34-49).

20. Regarding claim 15, referring to claim 14, Applicant's admitted prior art in view of Minn in further view of Madhow discloses that the correlating step comprises summing the power of the corresponding symbol bits from each of the plurality of segments (Madhow: col. 7, lines 43-49).

21. Regarding claims 17-19, referring to claim 14, Applicant's admitted prior art in view of Minn in further view of Madhow does not expressly disclose that the number of segments is four, eight, or two, with each segment having sixty-four symbols, thirty-two symbols, or one hundred twenty eight symbols, respectively; however, Applicant's admitted prior art in view of Minn in further view of Madhow discloses a segment in the bitstream, since "a segment" can

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include any number of segments including 1 (Applicant: page 2, line 12-page 4, line 5 and Madhow: col. 7, lines 34-49). It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Minn in further view of Madhow discloses at least one segment, any number of segments and its corresponding number of symbols, would have been obvious at the time of the invention, including four or eight, with each segment having sixty-four symbols or thirty-two symbols, respectively.

22. Claims 12, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Minn et al (USPN 6,088,347) in further view of Madhow et al (USPN 6,175,587) in further view of Bottomley (USPN 5,237,586).

23. Regarding claims 12 and 23, referring to claim 11, Applicant's admitted prior art in view of Minn in further view of Madhow does not expressly disclose that the de-interleaving step comprises: applying the bitstream into a sequence of tapped delay lines; and grouping corresponding taps from each of the tapped delay lines. Bottomley teaches, in a wireless communication system, using tapped delay lines to be able to search for a signal that has an arrival time delay (col. 4, lines 5-18). It would have been obvious to one of ordinary skill in the

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art at the time of the invention to use tapped delay lines in order to search for a signal that has an arrival time delay.

24. Regarding claim 24, referring to claim 23, Applicant's admitted prior art in view of Minn in further view of Madhow in further view of Bottomley discloses that the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes (Minn: col. 4, line 3-60).

25. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Minn et al (USPN 6,088,347) in further view of Madhow et al (USPN 6,175,587), as applied to claim 14 above, and further in view of Yoon et al (USPN 5,790,537).

26. Regarding claim 16, referring to claim 14, Applicant's admitted prior art in view of Minn in further view of Madhow does not expressly disclose that the correlating step comprises deriving a difference value of the corresponding symbol bits from each of the plurality of segments. Yoon teaches, in a wireless communication system, deriving a difference value of the corresponding symbol bits from each of the plurality of segments as a way to perform correlation (col. 14, lines 60-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to derive a difference value of the corresponding symbol bits from each of the plurality of segments as a way to perform correlation.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

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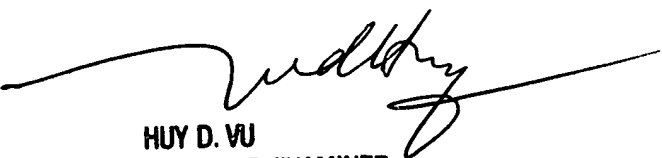
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman  
Examiner  
Art Unit 2665

DTZ

Daniel J. Ryman



HUY D. VU  
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